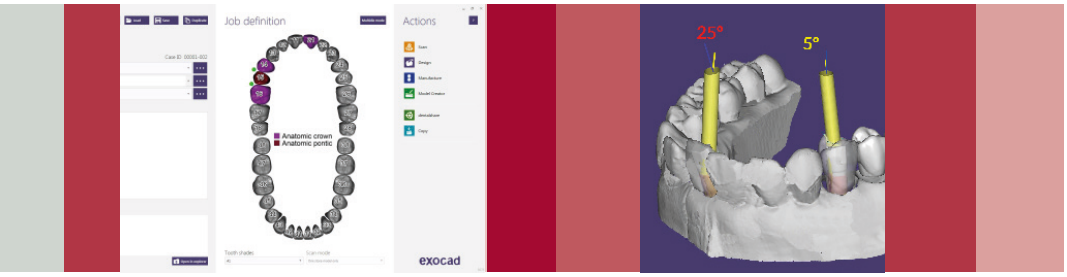
DYNAMIC ABUTMENT® SOLUTIONS



ScAnalog Library

exocad

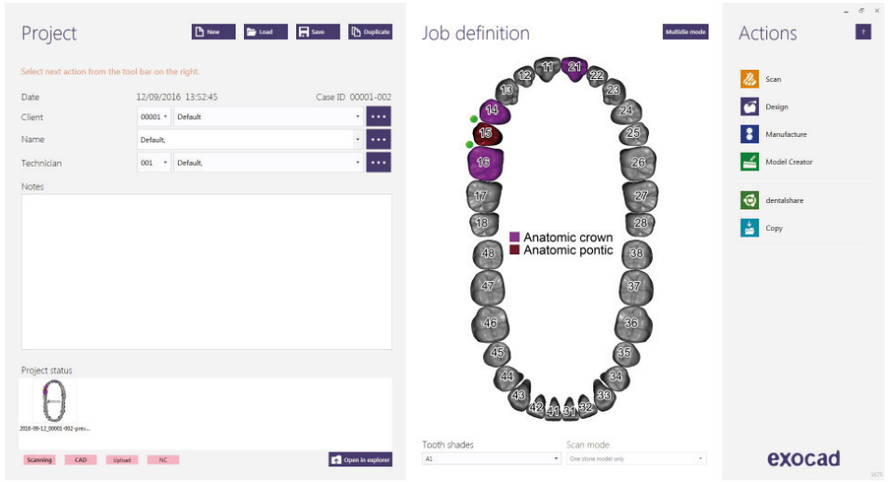
INSTRUCTIONS FOR USE

DYNAMIC ABUTMENT® SOLUTIONS LIBRARY

INST_EXO_SA_2019_01_EN

INTRODUCTION

When starting the Exocad Dental DB program, it will appear the following screen that defines the work to do.



On this screen, client, patient, technician, type of work, materials, etc. is defined. The work is completely defined without specifying the brand and implant model.

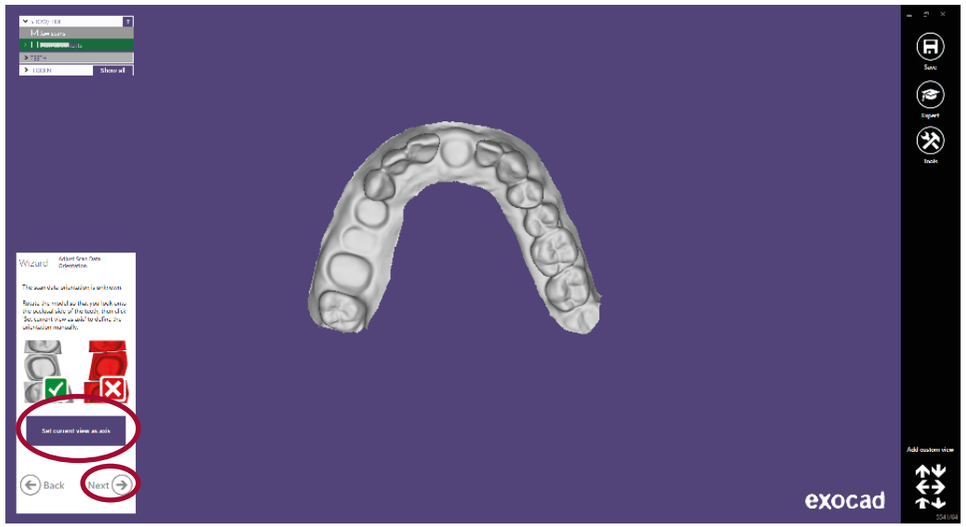
It will only be necessary to specify that work will be done on implants, as the reconstruction will be based on one or more implants depending if the work is for a single or a multiple restoration.

ORIENTATION SCANDATA

In the first step , the ajustment of the scandata must be carried out. During this step, the software indicates to set the view in “grey”.
As we work with the scanbody and impressions trays, two situations can arise:

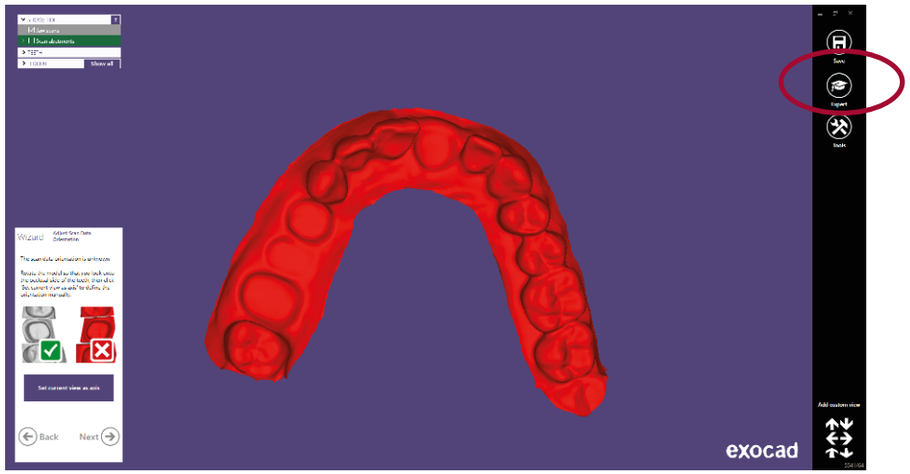
SITUATION 1

If the “Jaw Scan” file is “grey” as show in the image, it is correct. Click on “Set current view as axis” and then click “Next.

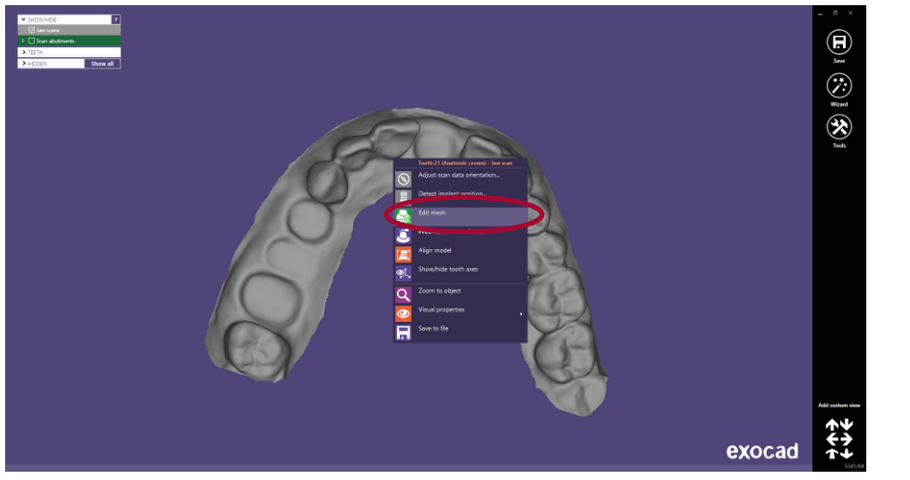


SITUATION 2

If the “Jaw Scan” model is in “red” as shown in the image, it is **not correct**.
To invert the normals and get the file un “grey”, click on “Expert” mode.

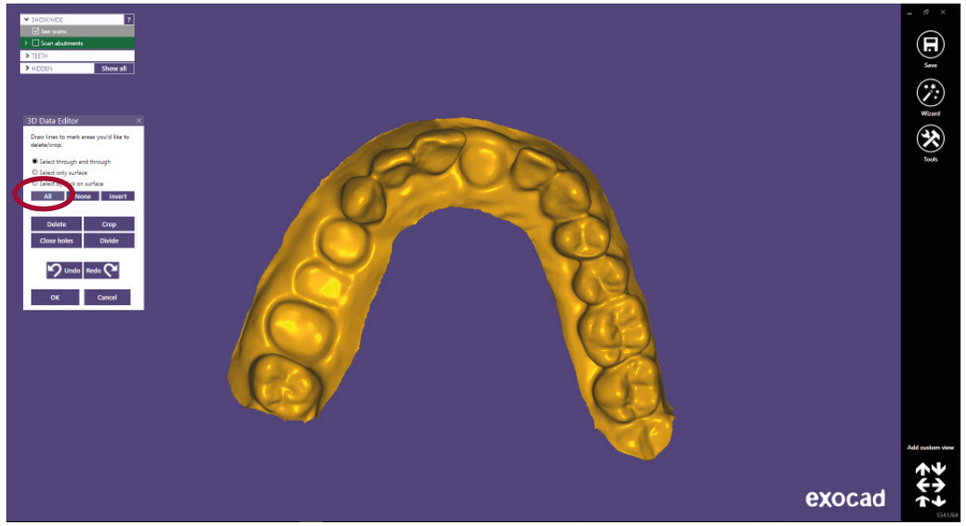


Click with the right mouse button on the model and choose the “Edit Mesh” option as show in the image:

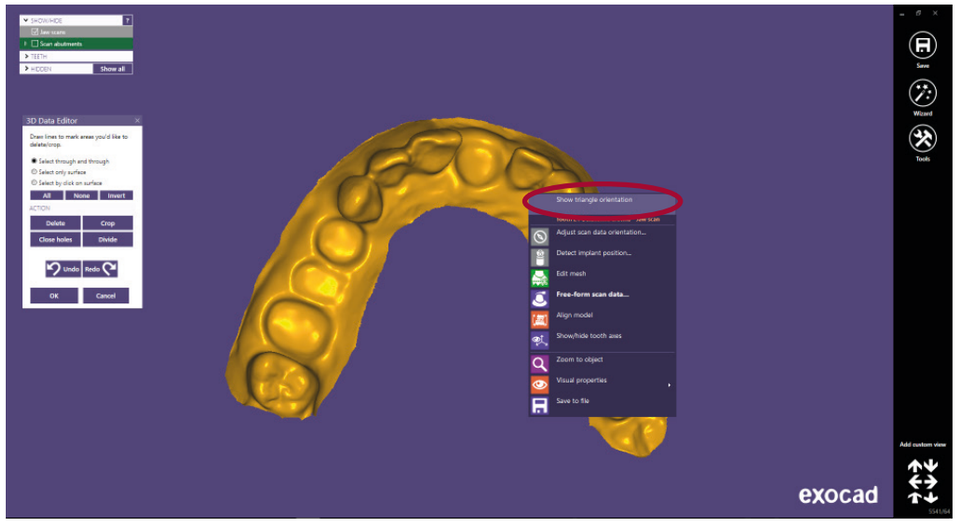


Below are the 3D data edition options.

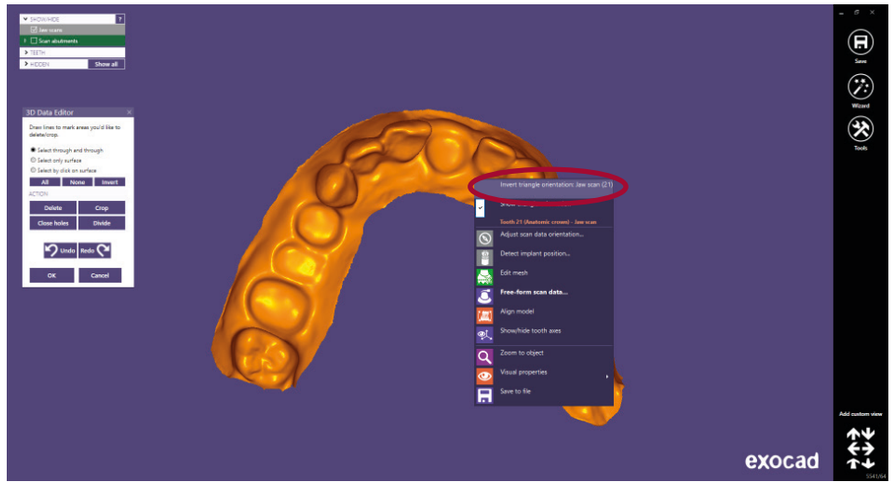
Click on “All”



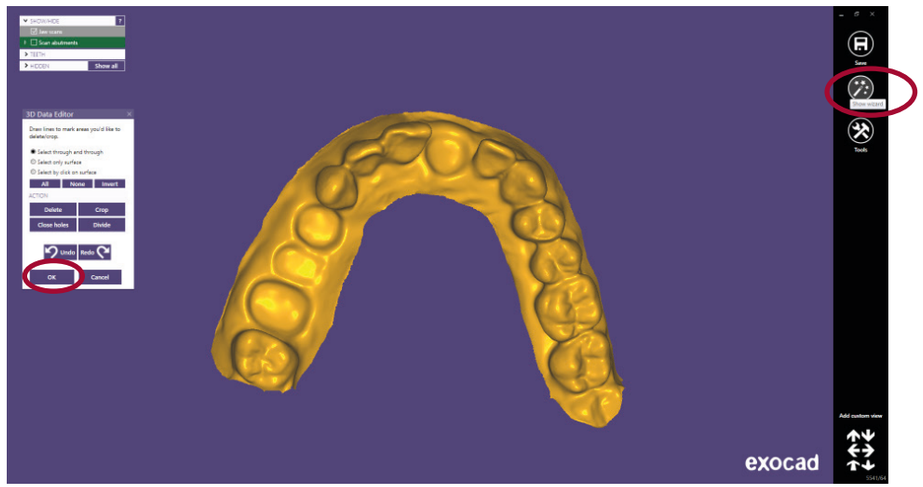
Click with the right mouse button on the model and choose the option “Show triangle orientation” as in the image:



Click with the right mouse button on the model and choose the option “Invert triangle orientation” as show in the image:

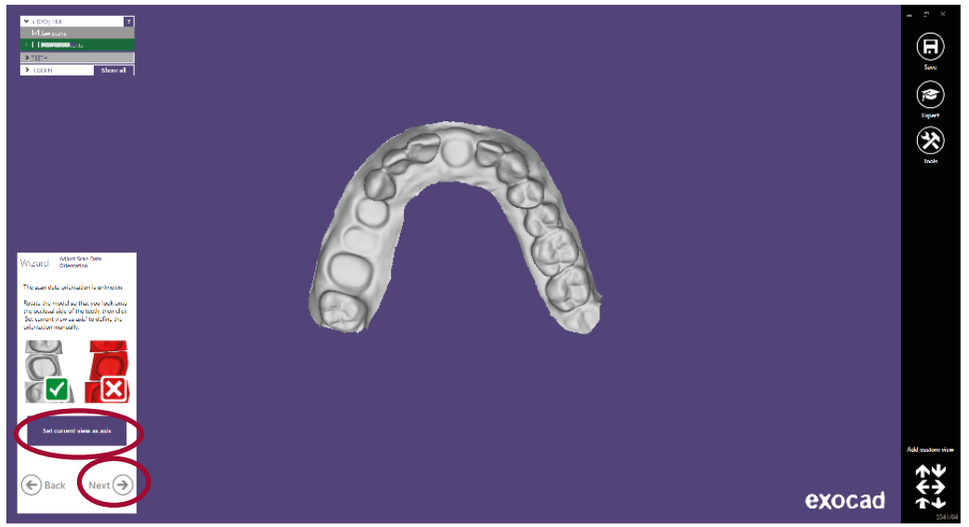


Click on “Ok” and then click on “Wizard” option:



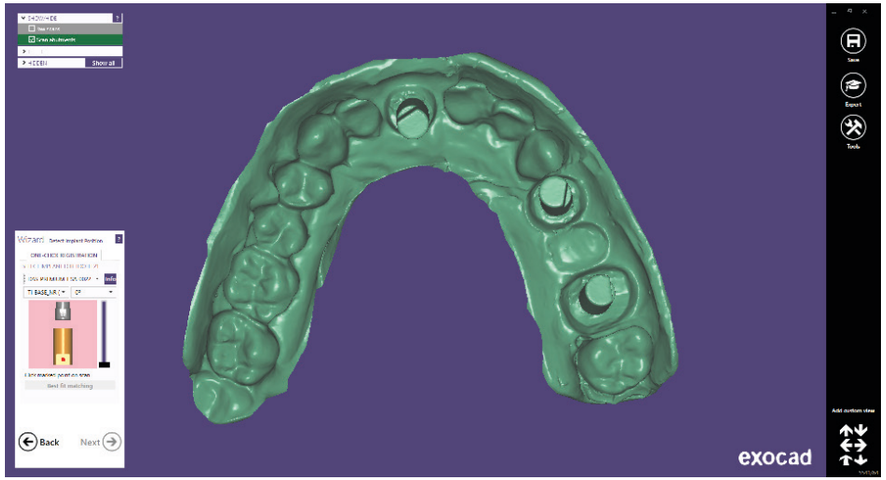
Finally, we get the grey “Jaw Scaw” scan, which is the right color to work with.

Click on “Set current view as axis” and then on “Next”.



SELECT DYNAMIC ABUTMENT® SOLUTIONS LIBRARY (DAS_I)

When selecting the DAS library to work with the ScAnalog system, you can choose the implant compatibility (Nobel Biocare, Straumann, Astra, etc.).



The DAS library has different compatibilities, which are represented by the following nomenclature:

DAS = Dynamic Abutment Solutions
SA = ScAnalog
0001/0002/0003/... = Compatibility
Library options:
STANDARD =Tibase+Dynamic Premilled+Digital Analog+ScAnalog
STANDARD_PLUS=Tibase+Dynamic Premilled+Digital Analog+Direct to Implant (Fake connection-Changes to real connection in CAM) + ScAnalog
PREMIUM = Tibase+ Dynamic Premilled+Digital Analog+Direct to Implant (Real values) +ScAnalog

NOTE: the angulation of the TiBase® it goes always on the opposite side of the scanbody lateral cut. Also it is possible to move horizontally 45° the angled channel to each side from the central axis.

The company has a list (PDF) which identifies the compatibility of the implant with a number, for example: the compatibility DAS_SA_0001 stands for Biomet 3I Certain Narrow Platform.

The same number can have more than one compatibility, for example: DAS_SA_0024 is compatible with Nobel Biocare Branemark Regular platform, but it will also be compatible with other external hexagons that are compatible with the external hexagon dimensions of Branemark Regular Platform.

Once the compatibility we want to work with is selected, you have to decide the type of work to be performed. One of the most important advantages of the system is that it has different work options.

Ti-Base_NR (CH*/GH*)= Engaging TiBase

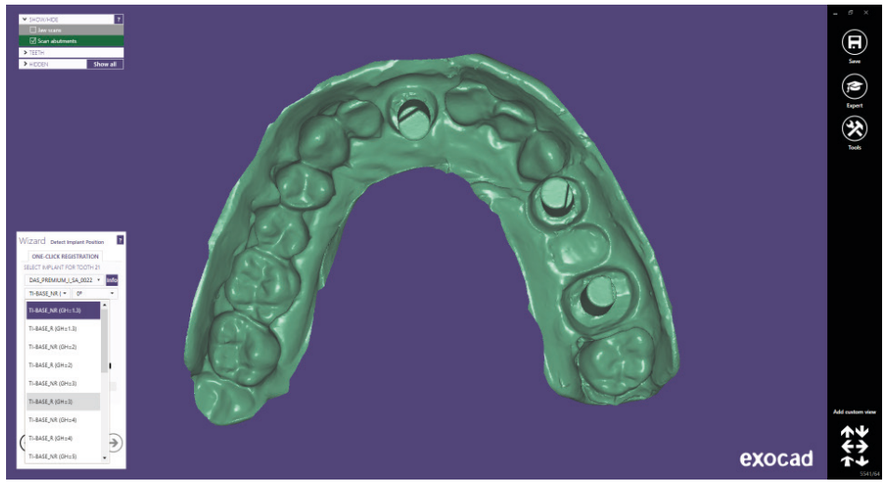
Ti-Base_R (CH*/GH*) = Non-engaging TiBase

* (CH= Cement Height / GH= Gingival Height)

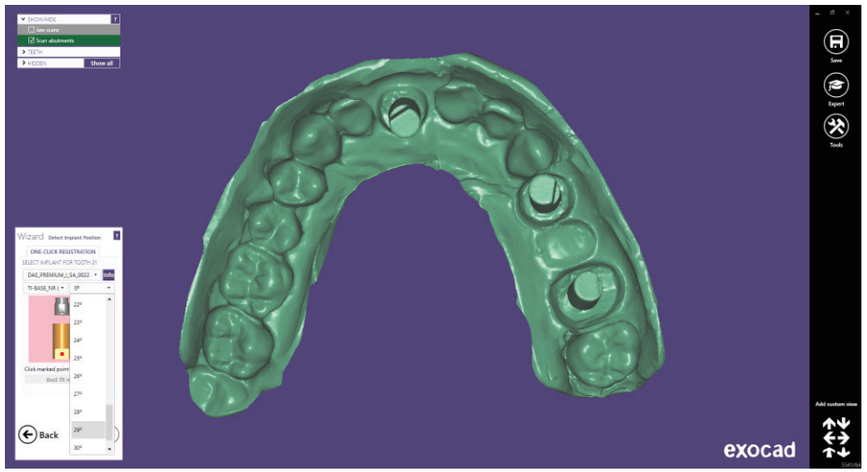
Direct_NR = Engaging direct to implant

Direct_R = Non-engaging direct to implant

Dynamic Pre-Milled = Dynamic Pre-milled for unitary restorations



After selecting the type of work to be performed, proceed to select if you want to work with straight screw channel (0 °) or angled channel (up to 45 °).



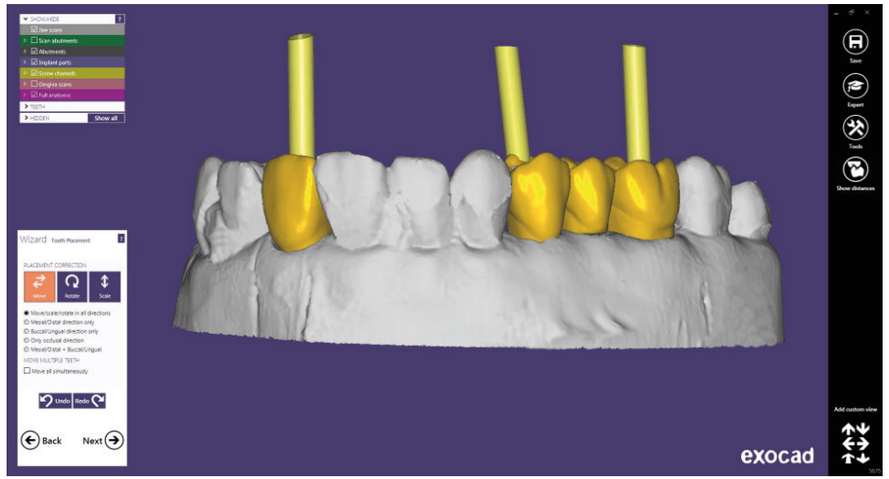
To explain the work to be done we will use the scanbody for number 21, 14 and 16 and we will perform a unitary work and a bridge.

In this example we will use the Direct_NR (21) and Direct_R (14 and 16) option.

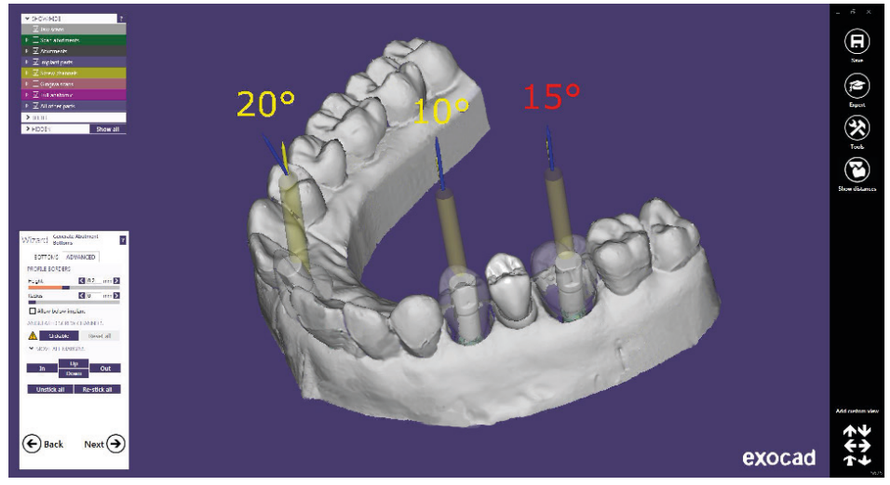
After selecting the compatibility and the type of work, proceed to choose the angulation for each structure. The example is 20° for 21, 10° for 14 and 15° for 16. The angulation in this step is approximate, when designing the structure, you can change the angulation. It is recommended to choose the angulation as approximate to the one we want as possible, so that in the next steps the angulation change is minimal. This recommendation is due to the fact that in the Exocad angulation module any change in the angulation and direction of the channel might deform the design of the screw hole, making it larger than the one that originated at the beginning.

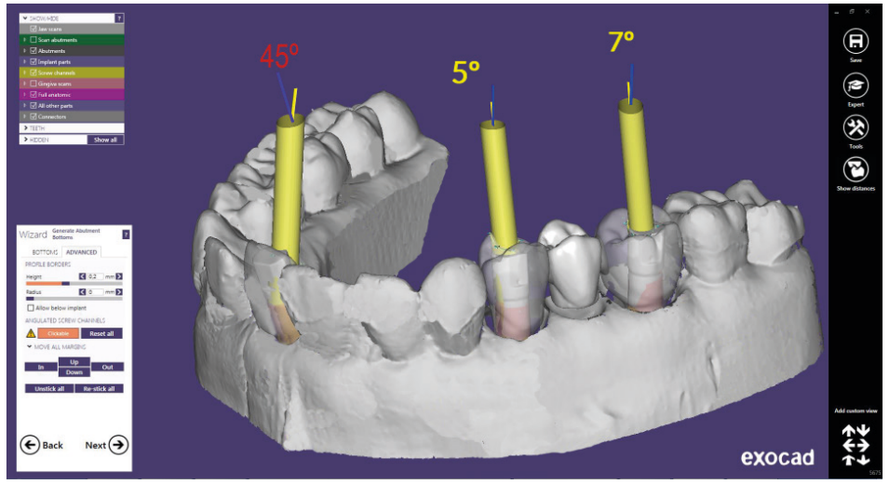
Once the scanbodies have been correctly positioned, click on “Next”.

This step defines the position, rotation and scale of the structure.

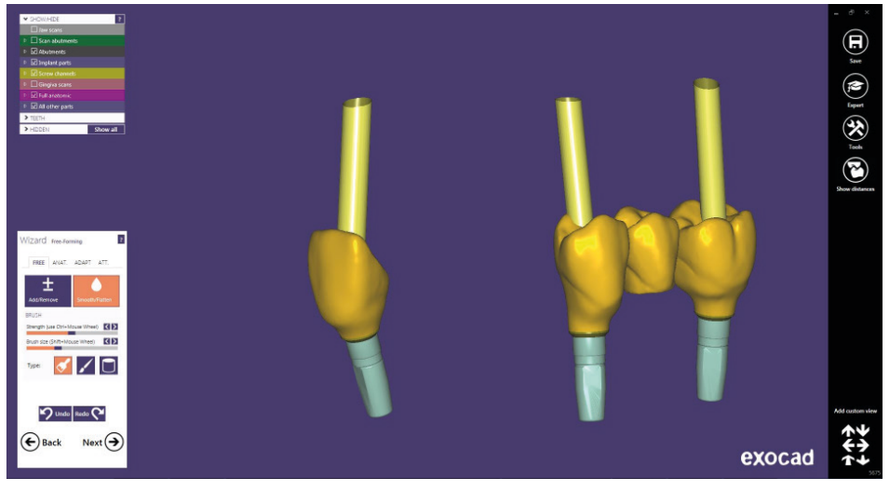


Then in “Generate Abutment Bottoms”, “Advanced”, there is an option called “Angulated Screw Channel”, where you can change the angle and direction of the screw channel. It is recommended that the change in both angulation and direction is not excessive, as the Exocad angulation module deforms the screw entry by making it larger than the original. For example, changing from 20° to 25° is a good solution, but changing from 5° to 25° would cause the channel deformation and therefore it wouldn’t be aesthetic. Please mind when changing direction of the channel, because an excessive change would deform the screw channel.



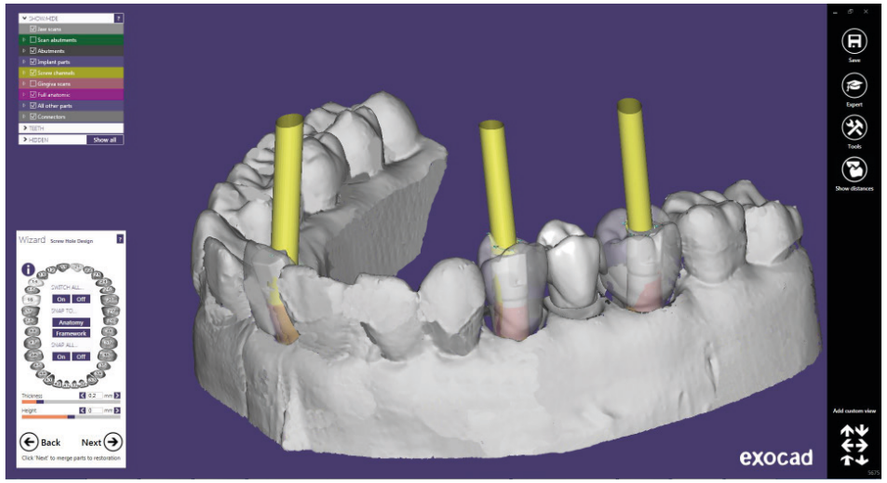


The anatomical design of the structure is defined below.

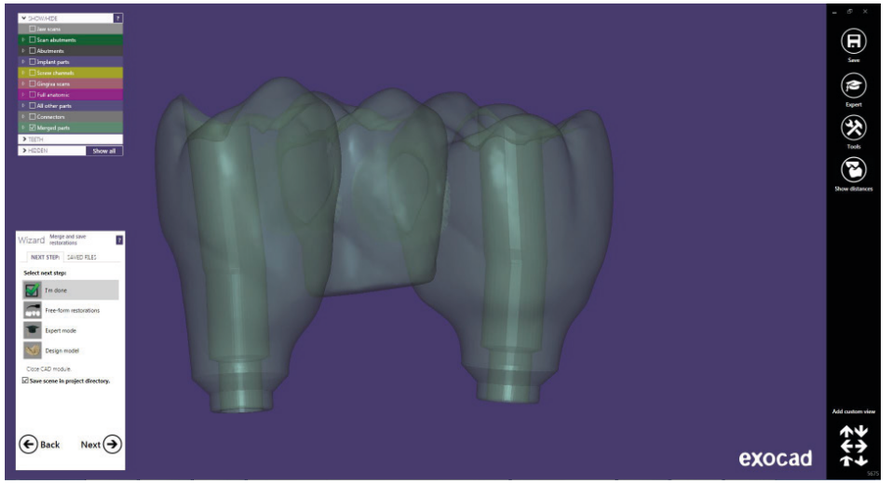


Screw hole design

In the section of screw hole design, it is possible to modify the height and the thickness of the screw hole (It is the same for any library).



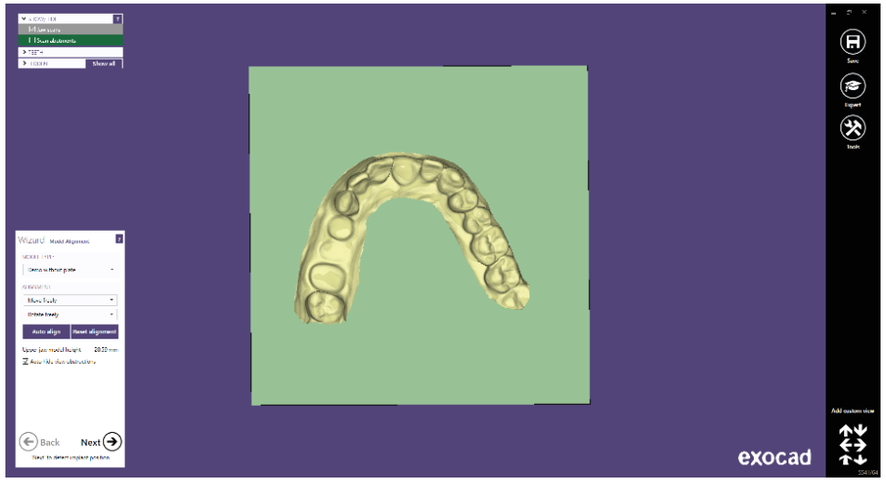
Once the design of the screw hole is finished, click on “Next”, and you obtain the following design:



Once the work is completed, the model can be designed for subsequent 3D printing.

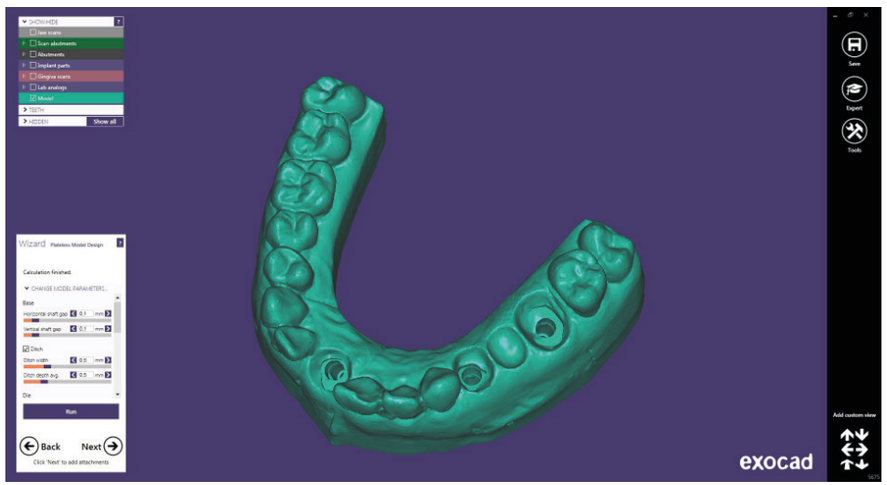
In the last image, you can see that there are different options, one of them is “Design Model” where you can proceed to the realization of the model in 3D. Click on “Design Model” to start with the design.

On the first screen, you can choose the type of model “Demo with plate”, “Model without plate (Objet printer)”, etc, and perform the alignment of the model.

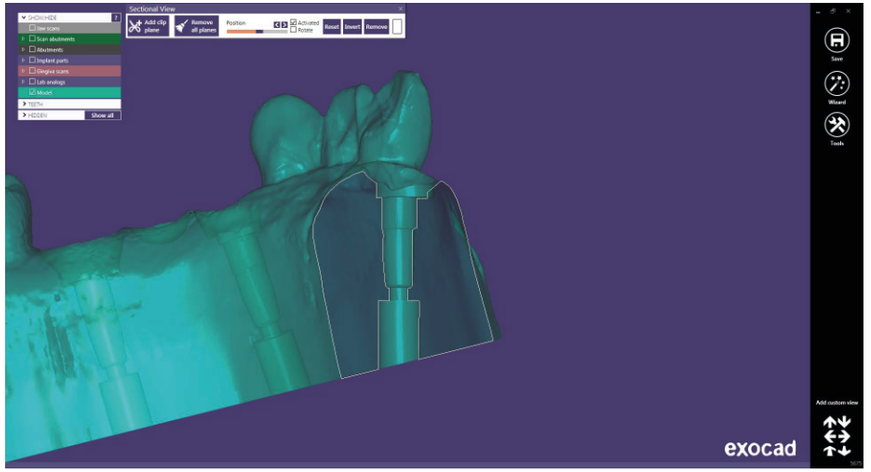


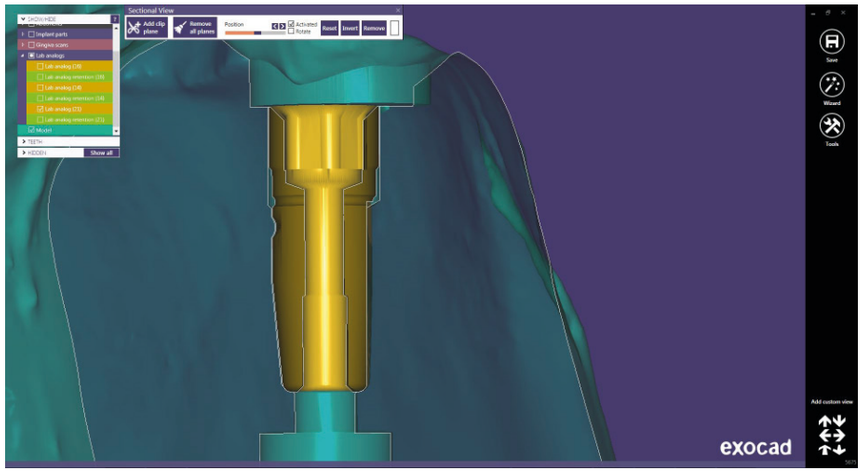
The following Exocad screen will start with the design of the 3D model with the digital analogs and leave the space for later use of the analog.

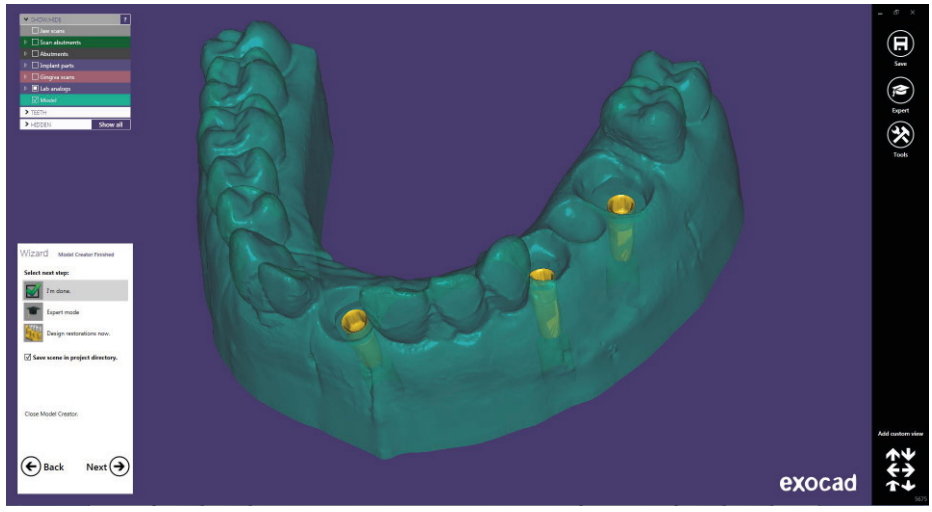
The following image shows the model with the holes. In this step you can make different modifications of the 3D, such as “Wall thickness”, “Cavity fill diameter”, etc.



Finally, we can see the model from different views, the hole for the digital analog and the hole with the virtual analog placed.






SHOW/HIDE
Jaw scans
Scan abutments
Abutments
Implant parts
Gingiva scans
Lab analogs
Model
TEETH
HIDDEN
Show all
Wizard
Model Creator Finished
Select next step:
I'm done.
Expert mode
Design restorations now.
Save scene in project directory.
Close Model Creator.
Back
Next
Save
Expert
Tools
Add custom view
exocad